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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,535

01/03/2007

Paolo Brunengo

9526-88

2441

30448

7590

09/11/2008

AKERMAN SENTERFITT

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EXAMINER

VANOY, TIMOTHY C

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

09/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,535	Applicant(s) BRUNENGO, PAOLO	
	Examiner TIMOTHY C. VANOY	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/26/2007; 4/26/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

- a) The specification needs a first sentence that identifies this application as the national stage filing under 371 of PCT/EP2004/009936 filed on Sept. 7, 2008.
- b) In the abstract, the “)” should be deleted between "the" and "hydrolysis".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a) In claims 1-8, it is not known what is meant or intended by the method for the damp of nitrogen oxides. What is meant by “damp”?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1793

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person having ordinary skill in the art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S.

Pat. 6,361,754 B1 to Peter-Hoblyn et al. in view of U. S. Pat. App'n. Pub. No.

2004/0146441 A1 to Lang et al.

Claim 1 in the Peter-Hoblyn patent describes the base process for removing NO_x out of the exhaust gas emitted from an internal combustion engine, comprising:

supplying an aqueous urea solution into a vessel;

heating the urea solution in the vessel to a temperature above the hydrolysis temperature so as to produce gaseous ammonia;

introducing the gaseous ammonia into the exhaust passage, and

passing the exhaust gas containing the ammonia through a selective catalytic reduction reactor.

The difference between the Applicants' claims and this Peter-Hoblyn patent is that the Applicants' claims require that the gaseous ammonia be stored in an "accumulator" (i. e. a storage tank).

The Lang application describes a similar process for the selective catalytic reduction of NO_x in the exhaust gas emitted from an internal combustion engine by injecting ammonia into the exhaust gas and then passing the ammonia-containing exhaust gas through a catalyst which promotes the reaction between the NO_x and the ammonia (please see claim 1). More specifically, paragraph no. 0023 explains that the ammonia leaving the ammonia synthesis step is not directly used for the selective catalytic reduction of the NO_x (as is conventional in the prior art), but, rather, is stored in a storage medium (i. e. a storage tank). Paragraph no. 0028 explains that by storing the ammonia in the storage tank, there will be sufficient ammonia for the selective catalytic reduction of NO_x, *even in the event of a rapid change in the load of the internal combustion engine*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made *to have modified* the process described in the Peter-Hoblyn patent *by storing the gaseous ammonia in a storage tank*, as described in paragraph no.s 0023 and 0028 in the Lang application and set forth in the Applicants' claims, *because* of the taught advantage of ensuring that there is sufficient ammonia even in the event of a rapid change in the load of the internal combustion engine, as set forth in paragraph no. 0028 in the Lang application.

References Made of Record

The following reference from the examiner's search is made of record:

US 2005/0129599 A1 teaching ammonia storage and injection in NOx control.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY C. VANOY whose telephone number is (571)272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Timothy C Vanoy
Primary Examiner
Art Unit 1793

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/Timothy C Vanoy/

Primary Examiner, Art Unit 1793